

REMARKS

As an initial matter, Applicant noted that this Office Action was mailed to the law firm of Ladas & Perry in New York. Applicant submits with this Amendment a copy of Combined Revocation and Power of Attorney executed by the assignee and filed on November 26, 2003. Applicant requests that future communications from the United States Patent and Trademark Office be addressed to Dorsey & Whitney LLP at indicated in the Power of Attorney.

Prior to this Amendment, Claims 1-18 were pending and under consideration. With this Amendment, Claims 1-7 and 9 are being amended, Claims 8 and 10-18 canceled, and new Claim 19 added. Thus, after entry of this Amendment, Claims 1-7, 9 and 19 are pending and under consideration. The amendments of the claims and various objections and rejections of the claims are addressed in detail below.

Drawings:

One sheet of drawings including FIGS. 1-3 is submitted. To be consistent with the reference numerals in the drawings, the reference numerals in the Specification are amended. No new matter is added by this amendment to the Specification.

Amendments of the Claims:

Claims are amended to more accurately recite the invention. The amendments relate to claim dependency and grammar and no new matter is introduced. New Claim 19 is added to recite embodiments of the dichroic dyes used in the dichroic polarizers of the present invention. Support for Claim 19 can be found in the Specification for example at page 5-7.

Claim Rejection under 35 U.S.C. § 102(b):

Claims 1-3, 5 and 9-10 are rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. 5,686,979 to Weber *et al.* Claims 1-3, 5 and 9-10 are further rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. 5,673,127 to Takahara *et al.* Applicant respectfully traverses the rejections.

As the Examiner knows, a claim is anticipated under 35 U.S.C. 102 only if each and every limitation as set forth in the claim is found, either expressly or inherently described in a

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes FIGS. 1-3.

Attachment: One Sheet of Drawings including FIGS. 1-3.

single prior art reference. Applicant respectfully submits that neither Weber *et al.* nor Takahara *et al.* teach each and every limitation of the above claims and the present invention is novel over the cited references.

Instant Claim 1 recites a *dichroic polarizer* comprising two *reflective coatings* and a *layer dichroically absorbing electromagnetic radiation* between the two reflective coatings, wherein at least one of the two reflective coatings is partially transmitting.

Weber *et al.* teach a *reflective polarizer*, which transmits light of a first polarization and reflects light of a second polarization. In Weber *et al.*, the reflective polarizer, which is comprised of a multilayered stack of alternating layers of different materials, transmits all (under optimum conditions) all of the light having polarization state (a) which is orthogonal to the stretch direction of the polarizer, and *reflects* light having polarizer state (b). Col. 5, lines 31-47.

In contrast, in the dichroic polarizer recited in instant Claim 1, a layer of a *dichroic* material *absorbs* light in an absorption plane and transmits light in a transmission axis to achieve light polarization. Thus, the present invention teaches a completely different type of polarizer distinct from Weber *et al.* Further, to increase the polarization degree of electromagnetic radiation and preserve high transmission coefficient for the non-absorbed component in an effort to increase the efficiency of the dichroic polarizer, the dichroic polarizer recited in instant Claim 1 further comprises two *reflective coatings* one of which is partially transmitting. A reflective coating is a layer reflecting or partially reflecting light irrespective of polarizing state. (There is distinction between reflective coatings and reflective polarizers.) As shown in FIG. 2 of this application for example, the absorbed component 7 of electromagnetic radiation is partially reflected from layer 6 and forms beam 9. The rest of energy of component 7 passes through layer 1 of dichroically absorbing electromagnetic radiation, and after being reflected from reflective layer 5, passes through layer 1 once again and then through layer 6 forming beam 10. The interference of beams 9 and 10 leads to their mutual weakening, and complete cancellation under optimum conditions. Weber *et al.* do not teach *reflective coatings* such as partially transmitting reflective layer 6 and reflective layer 5 shown in FIG. 2 and recited in instant Claim 1. Weber *et al.* only teach an optical panel capable of switching between *reflective and transmissive states*, using *reflective polarizers*, which are different from the dichroic polarizer

recited in instant Claim 1. There is no teaching of absorbance of electromagnetic radiation by a layer of dichroic materials.

Takahara *et al.* teach a *liquid crystal display* comprising a *light-modulating layer*. Takahara *et al.* do not teach a *dichroic polarizer* comprising a *layer dichroically absorbing electromagnetic radiation* recited in instant Claim 1. The light-modulating layer is in form of a layer of *polymer dispersed liquid crystal material* including a light-curable resin component and a nematic liquid crystal component. It modulates light as a function of change in light scattering and functions only by applying an electrical field. Takahara *et al.* do not teach an absorbing layer of dichroic material that *absorbs* light in an absorption plane and *transmits* light in a transmission axis to achieve light polarization, irrespective of application of electrical field. In contrast, Takahara *et al.* teach that no polarizing plate is required in their liquid crystal display. Col. 11, line 40-41.

Accordingly, Applicant respectfully requests that the rejections of Claims 1-3, 5 and 9-10 under 35 U.S.C. 102 be withdrawn.

Claim Rejection under 35 U.S.C. § 103(a):

Claims 6, 11-12, 14 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber *et al.* in view of U.S. Patent No. 4,783,150 (Tabony). Claims 4, 6-8 and 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahara *et al.* in view of Tabony and WO 97/39380 (WO '380). Applicant traverses the rejections.

To establish a *prima facie* case of obviousness, three basic criteria must be met: (1) the prior art must provide one of ordinary skill with a suggestion or motivation to modify or combine the teachings of the references relied upon by the Examiner to arrive at the claimed invention; (2) the prior art must provide one of ordinary skill with a reasonable expectation of success; and (3) the prior art, either alone or in combination, must teach or suggest *each and every limitation* of the rejected claims. The teaching or suggestion to make the claimed invention, as well as the reasonable expectation of success, must come from the prior art, not Applicant's disclosure. If any one of these criteria is not met, *prima facie* obviousness is not established. Applicant respectfully submits that a *prima facie* obviousness has not been established and the present invention is not obvious over the cited references.

Weber *et al.* and Takahara *et al.*, have been discussed above.

Tabony teaches thermally, electrically or magnetically controllable lyotropic liquid crystal optical devices. However, Tabony and WO '380, like Weber *et al.* and Takahara *et al.*, do not teach a dichroic absorbing layer between two reflective layers one of which is partially transmitting. Thus, Tabony and WO '380 cannot compensate the deficiency of Weber *et al.* and Takahara *et al.*. Therefore, the combination cannot arrive at the dichroic polarizer recited in the instant claims.

Accordingly, Applicant respectfully requests withdrawal of the rejections of Claims under 35 U.S.C. 103(a).

Based on the foregoing, Applicants respectfully submit that the claims of the present application are in condition for allowance. An early indication of the same is therefore respectfully requested. If any matters can be resolved by telephone, the Examiner is invited to call the undersigned attorney at the telephone number listed below. The Commissioner is authorized to charge any additional required fees, or credit any overpayment, to Dorsey & Whitney LLP Deposit Account No. 50-2319 (Order No. 33733/AJT/TJH (463031-157)).

Date:

Respectfully submitted,



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